

Kewaunee County Volunteer Well Testing Program data from 2004-2015

Kewaunee County Land & Water Conservation Department and the Kewaunee County Department of Public Health sponsor an annual effort to promote homeowners volunteer monitoring of their private wells. If available, grant funds are used to reduce or eliminate the costs for the sample kit and analysis during this annual event. Sample kits are available through the County at other times throughout the year, however, homeowners will typically incur full costs for the sampling kit and analysis.

- 620 different private wells have been tested from 2004 – 2015
- Of the 620 wells, 180 wells tested positive for the presence of bacteria and/or nitrates >10 ppm
- Of the 180 wells, 117 wells tested positive for either coliform bacteria or *E. coli*
- Of these 117 wells, 97 tested positive for only coliform bacteria and 20 tested positive for *E. coli*
- Of the 180 wells, 39 had nitrates >10 ppm
- Of the 180 wells, 24 tested positive for bacteria and nitrates > 10 ppm

WDNR funded Kewaunee County Groundwater Study

WDNR has funded research study to identify spatial and temporal patterns of groundwater contamination in Kewaunee County. The study includes two county-wide randomized sampling events of private wells stratified by depth-to-bedrock for nitrate and indicator bacteria (November 2015 and July 2016). Additionally, the study includes four sampling events where a subset of wells from the two aforementioned sampling efforts are monitored for viruses and fecal markers capable of distinguishing septic versus bovine sources (April 2016, August 2016, fall 2016 and TBD 2017).

In November 2015:

- 323 private wells sampled and analysis conducted for nitrates, total coliform and *E. coli*
- Of the 323, 110 wells tested positive for total coliform, *E. coli*, or nitrates > 10 ppm
- Of the 110 wells, 86 tested positive for total coliform and of these 86 wells 6 wells tested positive for *E. coli*
- Of the 110 wells, 36 had nitrates > 10 ppm

In July 2016:

- 401 private wells sampled and analysis conducted for nitrates, total coliform and *E. coli*
- Of the 401, 124 wells tested positive for total coliform, *E. coli*, or nitrates > 10 ppm
- Of the 124 wells, 88 tested positive for total coliform and of these 88 wells 12 wells tested positive for *E. coli*
- Of the 124 wells, 44 had nitrates > 10 ppm

In April 2016 and again in August 2016 a randomized stratified subset of the 110 wells testing positive for total coliform, *E. coli*, or nitrates in November 2015 were sampled for source identification. A total of 59 samples were collected from 55 wells during the April and August 2016 events.

- 15 of the 55 wells tested positive for human-specific viruses and fecal markers
- 10 of the 55 wells tested positive for bovine-specific viruses and fecal markers
- 24 of the 55 wells tested positive for viruses and fecal markers non-specific to human or bovine
- 33 of the 55 wells tested positive for viruses or fecal markers, regardless of the host